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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,937	11/06/2000	Thomas Huber	N0070US	8577

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NAVIGATION TECHNOLOGIES CORPORATION
ATTENTION: PATENT DEPARTMENT
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CHICAGO, IL 60654

EXAMINER

LE, MIRANDA

ART UNIT PAPER NUMBER

2177

DATE MAILED: 06/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/706,937

Applicant(s)

HUBER ET AL.

Examiner

Miranda Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This communication is responsive to Amendment A, filed 03/20/2003.
2. Claims 1-14 are pending in this application. Claims 1, 2, 14 are independent claims. In the Amendment A, claim 14 has been added, and claims 1-2, 7, 9-13 have been amended. This action is made Final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless:

(e) the invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5, 9, 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Kothuri et al. (US Patent No 6,470,344).

Kothuri anticipated independent claims 1, 2, 14 by the following:

As per claim 1, Kothuri teaches “an improved index for data that represent geographic features, wherein index has a structure that includes two spatial dimensions

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whereby said data indexed by said structure are searchable spatially using said two spatial dimensions” at col. 3, lines 17-24, col. 6, lines 34-47,

“the improvement comprising: an additional dimension included in said structure of said index, whereby a property of the geographic features represented by the data is searchable using said additional dimension” at col. 3, lines 25-31, col. 6, lines 34-67.

As per claim 2, Kothuri teaches “an improved index for data that represent geographic features, wherein index has a structure that includes two spatial dimensions whereby said data indexed by said structure are searchable spatially using said two spatial dimensions” at col. 3, lines 17-24, col. 6, lines 34-47,

“the improvement comprising: an additional dimension included in said structure of said index, whereby a property of the data that represent the geographic features is searchable using said additional dimension” at col. 9, lines 34-55, col. 3, lines 25-31.

As per claim 14, Kothuri teaches “an improved index for data, wherein said index has a structure that includes two dimensions whereby said structure are searchable using said two dimensions” at col. 15, lines 38-39, and lines 50-53,

“the improvement comprising: an additional dimension included in said structure of said index, whereby a granularity of the indexed data is searchable using said additional dimension” at col. 20, lines 26-30.

As per claim 3, Kothuri teaches “structure is a k-d-tree index structure comprising a root node, intermediate nodes and leaf nodes, wherein each node is part of a

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parent-child relationship wherein each parent node includes control information from which one of at least two child nodes associated with the parent node are distinguishable based on a search key” at col. 3, line 32 to col. 4, lines 13, col. 7, lines 30-46.

As per claim 5, Kothuri teaches “improved index is non-homogeneous” at col. 9, lines 34-55, col. 10, lines 19-40.

As per claim 9, Kothuri teaches “property is a granularity of the indexed data” at col. 7, lines 17-27.

As per claim 12, Kothuri teaches “property is an expiration date associated with the indexed data” at col. 5, lines 3-15.

As per claim 13, Kothuri teaches “property is a creation date associated with the indexed data” at col. 5, lines 3-15, col. 7, lines 1-16.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 4, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kothuri et al. (US Patent No 6,470,344), as applied to claims above, in view of Evans et al. (US Patent No. 6,327,535 B1).

As per claim 4, Kothuri does not explicitly teach “improved index is homogeneous”. However, Evans teaches this limitation at col. 12, lines 23-45, col. 4, lines 31-41.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Kothuri with the teachings of Evans to include “improved index is homogeneous” in order to enable proximity calculations to be computed in a fast and straight forward manner.

As per claim 11, Kothuri does not explicitly teach “property is a scale associated with the indexed data”. However, Evans teaches this limitation at col. 6, line 66 to col.7, line 13, col. 24, lines 20-40.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Kothuri with the teachings of Evans to include “property is a scale associated with the indexed data” in order to provide a uniform way of defining locations.

7. Claims 6-7, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kothuri et al. (US Patent No 6,470,344), as applied to claims above, in view of Lampert et al. (US Patent No. 5,953,722).

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As per claim 6, Kothuri does not explicitly teach “geographic features are roads”. However, Lampert teaches this limitation at col. 6, lines 41-65.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Kothuri with the teachings of Lampert to include “geographic features are roads” in order to provide users with various navigating functions and features.

As per claim 7, Kothuri does not explicitly teach “property is a rank of the geographic features represented by the indexed data”. However, Lampert teaches this limitation at col. 6, line 66 to col. 7, line 25.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Kothuri with the teachings of Lampert to include “property is a rank of the geographic features represented by the indexed data” in order to provide a map display function that can provide rapid panning and zooming.

As per claim 10, Kothuri does not explicitly teach “property is a viewing altitude associated with the indexed data”. However, Lampert teaches this limitation at col. 4, line 66 to col. 5, line 15.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Kothuri with the teachings of Lampert to include “property is a viewing altitude associated with the indexed data” in order to provide separate collections of the data in sizes that are more manageable by each of the navigation functions.

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8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kothuri et al. (US Patent No 6,470,344), as applied to claims above, in view of Rosenberg et al. (US Patent No. 5,499,366).

As per claim 8, Kothuri does not explicitly teach “rank includes both integers and fractional values”. However, Rosenberg teaches this limitation at col. 8, lines 30-38.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Kothuri with the teachings of Rosenberg to include “rank includes both integers and fractional values” in order to utilize these weighted scale values to select a number of solutions from an existing database of possible solutions.

Response to Arguments

9. Applicant's arguments filed 03/20/2003 have been fully considered but they are not persuasive.

The Applicant argues that:

(a) Independent claim 1, Kothuri fails to disclose “the improvement comprising the non-spatial property of the geographic features represented by the data is searchable using the additional dimension.

(b) Independent claim 2, Kothuri fails to disclose “the improvement comprising the non-spatial property of the data that represent the geographic features is searchable using the additional dimension.

(c) Claim Rejections-35 U.S.C. §103, dependent claims 6, 7, 10.

(d) Independent claim 14, Kothuri fails to disclose “the improvement of the granularity of the indexed data being searchable using the additional dimension.

Examiner respectfully disagrees for the following reasons:

Per (a), Kothuri teaches the non- spatial property of the geographic features at col. 15, lines 38-39 as “another index may be constructed using year and state granularities”, which are the non-spatial property.

Kothuri also teaches the non-spatial property could be **searchable** using the additional dimension of the index at col. 15, lines 54-56 “...nodes of an R-tree index for sale data may store sales or profit data in addition to values for searchable attributes such as state, city, year, product, etc. Searchable attributes refer to those attributes or dimensions that may be specified as part of a search or query”. It is thus clearly shown by Kothuri the improvement of the granularity of the indexed data being searchable using the additional dimension.

Per (b), Kothuri discloses the improvement comprising the non-spatial property of the data that represent the geographic features being searchable using additional dimension at col. 15, lines 1-49. The property “discrete) (col. 15, line 14) or “continuous” (col. 15, line 18) is the non-spatial property of the data “latitude dimension” (col. 15, line 4) that represents the geographic features being searchable using additional dimension (“query retrieval unit comprise intervals or range rather than discrete values” at col. 15, lines 25-26.

Per (c), Examiner respectfully traverses that the Lampert reference is applied as prior art under U.S.C. §103 via §102 (b), not §102 (e). Therefore, the rule does not apply

and the Lampert reference is qualified as prior art against the claims of the present invention.

Per (d), Kothuri discloses an index including two dimensions as “another index may be constructed using year and state granularities” (col. 15, lines 38-39), and “...an index of multiple dimensions or multi-attribute data may also store information derived from data items, in addition to storing information concerning the data dimension or attributes” (col. 15, lines 50-53).

Furthermore, Kothuri discloses a granularity of the index data is searchable using additional dimension as “...a search for target data items commences at the root and propagates toward the leaf nodes in a recursive manner. Starting with the root node, at each non-leaf node visited in the query it is determined which child nodes should be examined...” (col. 20, lines 26-30).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (703) 305-3203. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax number to this Art Unit is (703) 746-7238.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.



Miranda Le

May 28, 2003



GRETA ROBINSON
PRIMARY EXAMINER